

Gas Line Repairs and Replacement

The codes associated with gas piping, equipment and related accessories is the 2003 International Fuel Gas Code. The State Plumbing Law requires a licensed Master Plumber to install or repair these systems. However, a homeowner can do some of the work themselves if they are working on their homestead and they have an understanding of the repair to safely complete it.

- **Replacing under ground pipes**

If you are installing steel pipe under ground, the following information will help. Steel pipe must be factory wrapped with a protective coating, usually an asphalt coating. This piping can be purchased at a plumbing supply. Only connections with fittings and short nipples would be wrapped on location.

Plastic pipe designed for gas must be run with a yellow insulated #14 or larger copper wire with it as a tracer. A coated metal riser must be used on each end and the compression nut must be wrapped with a protective wrap tape supplied by a plumbing supply. Plastic pipe must never be used inside or under a building.

The pipe must be at least 12 inches deep and must never be buried under a building. The bottom of the trench should be firmly packed with no rocks, concrete or other debris in it which could damage the pipe. Leave the trench open for the inspector.

- **Replacing above ground pipes**

Black iron or galvanized steel pipes are the most common used here. Take care to support them normally every 6 feet and at each fitting and at outlets. Paint or otherwise protect the pipe from rusting.

- **Testing**

The gas pressure test is to be performed before the gas provider will turn the gas back on. A gauge must be placed in the system to indicate the pressure on the lines being tested. The gauge must show pressure per square inch in 1/10 pound increments. (There should be 10 spaces between each pound mark.) The gauge should only go up to 10 or 12 psi. Be careful not to over pressure your gauge. Pressure should read between five and seven psi for the inspector to see. When the inspector checks this test, expect all the gas appliances to also be viewed for safety.

- **Replacing gas equipment**

Gas fired equipment, such as furnaces or water heaters, must be replaced with extreme caution and it may be more efficient for a licensed professional to do this. The following items must be considered:

1. Combustion air – When an appliance is in a confined location, it can rapidly burn up the oxygen it needs to function efficiently. Inadequate supply of air for combustion will cause the carbon monoxide levels to increase to dangerous levels.
2. Flue exhaust system – Over time flue pipes deteriorate and produce leaks and some flues are of the old single wall type. Flue pipes should be upgraded from the appliance all the way up above the roof. Some of the old style roof caps may even need to be upgraded to accommodate this.
3. Clearances – When an appliance is installed, the proper clearance must be maintained to prevent a fire from heat from the flue pipe and the heat transferred through the body of the appliance. This information is in the manufacturers installation guide.
4. Connection to gas – The proper type of gas connector should be used and it must not enter the appliance housing.
5. Sizing – When replacing an appliance, a change in size may cause the gas pipe which supplied the old appliance to be insufficient for the new one. If you are unsure, check with your local building inspection office for assistance.

- **Do's and Don'ts**

Never use copper tubing.

Never replace a gas line with a smaller size pipe.

If you're not sure, ask a plumber or plumbing inspector.

If you're adding equipment, it is not uncommon to increase the gas line size all the way to the meter.

If you see soot on the appliance closet walls or on the flue cap, your appliance is taking too much oxygen from the air.

Always keep things away from the flue pipe and out of the equipment closets.

If the water heater is outside in a small enclosure, keep the enclosure in good repair.

The flue always goes above the roof line and never under windows.

The flue pipe should run vertical. (up!)